

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter, comprising:
~~an elongate shaft having a proximal end and a distal end; and~~
a balloon body connected to the distal end of the shaft, the balloon having an expandable region and a balloon waist, the balloon waist including a plurality of voids ;
wherein the plurality of voids are shaped and placed such that prior to thermal
~~reformation that cause~~ the balloon waist will [[to]] have a reduced profile subsequent to thermal reformation.

2. (Currently amended) A balloon for a balloon dilatation catheter as in claim 1, wherein the balloon waist has a material volume per unit length, and wherein the plurality of voids reduce the material volume per unit length.

3. (Currently amended) A balloon for a balloon dilatation catheter as in claim 2, wherein the material volume per unit length decreases in the distal direction ~~to cause the balloon waist to taper.~~

4. (Currently amended) A balloon for a balloon dilatation catheter as in claim 1, wherein the size, number and position of the plurality of voids are selected to cause the unit length to decrease in a distal direction ~~balloon waist to taper.~~

5. (Currently amended) A balloon for a balloon dilatation catheter as in claim 1, wherein a proximal balloon waist and a distal balloon waist include a plurality of voids, wherein the plurality of voids are shaped and configured such that the balloon waists will have a reduced profile subsequent to thermal reformation ~~prior to thermal processing that cause the balloon waists to have a reduced profile subsequent to thermal processing.~~

6. (Cancelled)

7. (Withdrawn) A balloon dilatation catheter as in claim 1, wherein the plurality of voids are wedge shaped.

8. (Currently amended) A balloon for a balloon dilatation catheter as in claim 1, wherein the plurality of voids are circular.

9. (Withdrawn) A balloon dilatation catheter as in claim 1, wherein the plurality of voids are rectangular.

10. (Withdrawn) A balloon dilatation catheter as in claim 1, wherein the plurality of voids are diamond shaped.

11. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter, comprising:
~~an elongate shaft having a proximal and a distal end; and~~
a molded balloon ~~attached to the distal end of the shaft~~, the balloon being molded to have an expandable region, and a length extending from a proximal end of the balloon waist to a distal end of the balloon waist, the balloon waist having a material volume per unit length, wherein material is removed from the balloon waist to achieve the material volume per unit length ~~volume per unit length after attachment to the distal end of the elongate shaft is less than the material volume per unit length immediately after molding of the balloon.~~

12. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter as in claim 11, wherein the material volume per unit length decreases from the proximal end to the distal end ~~to cause the balloon waist to taper.~~

13. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter as in claim 11, wherein the material volume per unit length is controlled by the formation of a plurality of voids in the balloon waist.

14. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter as in claim 13, wherein the size, number and position of the plurality of voids are selected to cause the material volume per unit length ~~balloon waist to taper~~.

15. (Withdrawn) A balloon dilatation catheter as in claim 13, wherein the plurality of voids are wedge shaped.

16. (Currently amended) A balloon ~~dilation~~ for a balloon dilatation catheter as in claim 13, wherein the plurality of voids are circular.

17. (Withdrawn) A balloon dilatation catheter as in claim 13, wherein the plurality of voids are rectangular.

18. (Withdrawn) A balloon dilatation catheter as in claim 13, wherein the plurality of voids are diamond shaped.

19. (Original) A method of manufacturing a balloon catheter comprising the steps of:
providing a catheter shaft having a proximal end and a distal end;
providing an expandable balloon having a waist and an expandable portion;
forming a plurality of voids in the balloon waist;
thermally reforming the waist to close the voids and to reduce the profile of the waist;
and
attaching the waist to the distal end of the catheter shaft.

20. (Original) A method of manufacturing a balloon catheter as in claim 19, wherein the step of attaching the waist comprises a thermal bonding process.

21. (Original) A method of manufacturing a balloon catheter as in claim 20, wherein the steps of thermally reforming the waist and attaching the waist are performed simultaneously.

22. (Original) A method of manufacturing a balloon catheter as in claim 19, wherein the balloon waist comprises a polymer which melts and flows into the plurality of voids during the step of thermal reforming.